

**AMENDMENTS TO THE DRAWINGS**

*Five replacement drawings sheets are attached, including Figs. 1-4, and 6.*

*The five replacement drawing sheets replace the drawing sheets including Figs. 1-4, and 6. Figs. 1-4, and 6 are amended to be labeled as --prior art--. Fig. 3 is amended to replace the numeric identifier "3" with the --13--.*

## REMARKS

Favorable reconsideration of the above-identified application is requested in view of the following remarks.

Examiner Lee is thanked for indicating that Claims 2 and 4 are allowable.

Claims 1-4 are pending, with Claims 1 and 3 being independent and the only claims presently at issue.

Claim 3 is amended to correct a grammatical error.

The Official Action raises an issue with regard to Figs. 1-4, 6 and 7 not being identified as prior art. Figs. 1-4 and 6 are amended to be identified as prior art. However, Fig. 7 illustrates defects in the prior art and therefore should not be labeled as --prior art--.

The Official Action raises an issue with regard to the numeric identifier "3" in Fig. 3. It appears that the numeric identifier "3" in Fig. 3 should be --13--.

Accordingly, such an amendment is made, thereby addressing that issue.

An issue is raised with regard to the title being allegedly non-descriptive.

Accordingly, the title is amended to better describe the subject matter in the application, thereby addressing that issue. Should the Examiner still feel that the title is non-descriptive, it is requested that the Examiner suggest a change to the title that would be more acceptable.

Claims 1 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,981,941, hereinafter *Takata*, in view of U.S. Patent No. 6,713,756, hereinafter *Yamamoto*.

According to one embodiment of the claimed subject matter, as shown in Fig. 5b of the present application, a fan-shaped scale grating 32A is formed in a circular

disk-shaped main scale plate 6 at prescribed angular intervals based on radial lines drawn from a center 30 of the main scale plate 6. In the projection-type rotary encoder which has the scale grating 32A, photodiode photosensitive surface grating 33A and object grating 31A have a shape corresponding to a light image obtained through each of the gratings. Therefore, the luminous energy received by the photodiodes does not decrease, making it possible to prevent or suppress an output drop of the detection signal or a decrease of S/N ratio thereof. A detailed description of the shape of the surface grating 33A, object grating 31A and photodiode photosensitive surface grating 33A is provided on page 8 of the present application. The invention is not limited to the disclosed embodiments.

In combination with other claimed features, Claim 1 recites that a main scale plate has a scale grating formed with a shape and size that corresponds to a light image of the object grating incident on a surface thereof. A photodiode grating plate has the photodiode photosensitive surface grating formed with a shape and size that correspond to a light image of the scale grating incident on a surface thereof. Claim 3 is directed to a projection-type reflecting rotary encoder, and recites, in combination with other claimed features, that a scale grating of a main scale plate is formed to have a shape and size that correspond to a light image of the object grating incident on the surface thereof. The photodiode photosensitive surface grating of the grating plate is formed to have a shape and size that correspond to a reflected light image of the scale grating incident on the surface thereof.

The rejections of Claim 1 and 3 set forth in the Official Action do not establish a *prima facie* case of obviousness because the Official Action does not assert that the above-noted subject matter recited in Claims 1 and 3 is disclosed by the cited

documents. The Examiner is reminded that, as stated in 37 C.F.R. § 1.104(c)(2) (emphasis added), "When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified." Here, the Official Action does not assert that the cited documents disclose that subject matter, never mind where or how that subject matter is disclosed or suggested. For at least that reason, a *prima facie* case of obviousness has not been established. Should these rejections be maintained, it is necessary for the Examiner to make an assertion that the features of Claims 1 and 3 noted above are disclosed or suggested by the cited documents, and it must be explained where or how those features are disclosed or suggested in combination with the other claimed features.

Further, upon review of the cited documents, it is apparent that the features in Claims 1 and 3 noted above are not disclosed or suggested by the cited documents. That is, Applicants could not find any portions of the cited documents that seemed to disclose or suggest that subject matter of Claims 1 and 3. For at least that reason too, the rejections of Claims 1 and 3 should be withdrawn.

Claim 1 also recites that the photodiode grating plate has a substantially fan-shaped photodiode photosensitive surface grating that is arranged at constant angular intervals in a circumferential direction, in combination with other claimed features. Claim 3 recites that a substantially fan-shaped photo diode photosensitive surface grating is arranged at constant angular intervals in a circumferential direction. The Official Action asserts that *Yamamoto* discloses a plurality of substantially fan-shaped photodiodes that are located at constant angular intervals in

a circumferential direction and directs attention to Fig. 50A. Applicants have studied Fig. 50A and corresponding description in the specification and failed to find any disclosure or suggestion of photodiodes that are located at constant angular intervals. It is assumed that the Examiner believes that photodiodes in Fig. 50A appear to be at constant angular intervals. However, specific dimensions like those claimed cannot be disclosed or suggested by general drawings absent a specific indication of such. Accordingly, *Yamamoto* does not disclose that for which it is relied upon, and the rejections of Claims 1 and 3 should be withdrawn. Should those rejections be maintained, it is necessary that it be shown where or how *Yamamoto* discloses or suggests that subject matter.

For at least the reasons stated above, it is requested that all the objections and rejections be withdrawn and that this application be allowed in a timely manner.

Should any questions arise in connection with this application, or should the Examiner feel that a teleconference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned requests that he be contacted at the number indicated below.

Respectfully submitted,

BUCHANAN INGERSOLL PC

Date: November 22, 2005

By:   
Kevin Brayton McGoff  
Registration No. 53,297

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620